Math Lesson for *10 Homes that Changed America* – The Geometry of Monticello

Name_____ Date_____

Directions: With your group members, follow the steps to create a geometric study model of Monticello.

Materials

⇒ Floor plan of Monticello (printed on 11 X17 paper)
⇒ Photo of the front of Monticello (elevation)
⇒ Pencils
⇒ Rulers
⇒ Paper scale rulers
⇒ Scissors
⇒ Masking tape
⇒ Thick liquid glue (like Tacky Glue)
⇒ Glue stick
⇒ 11 X 17 piece of heavy corrugated cardboard
⇒ Pieces of thin cardboard, as from empty cereal boxes
⇒ Card stock (for columns)

1. Using the glue stick, attach the floor plan to the heavy cardboard.
2. Using the following measurement facts, determine the appropriate scale you will use. In other words, if you know that the entire building measures 110 feet from end to end, you must then create an equation that will tell you how many inches is the equivalent to 110 feet. Use this scale to determine the size of the shapes you draw. In other words, once you have determined the scale, you will simply measure the shapes on the plan to figure out their size.

   Monticello is 110 feet long
   Monticello is 44' 7" high (to top of dome)

3. Measure, draw, and cut out the appropriate shapes to turn the two-dimensional floor plan into a three-dimensional model. For the columns, you must extrapolate their height, based upon the height of the entire building.
4. Using the liquid glue, attach each piece of wall to the base. Add additional pieces of wall and tape them together.
5. To make the columns, cut a piece of cardstock into the correct size. Roll it and tape it into a cylinder.
6. You don't need to make a roof. When your model is complete, look down into it to see the floorplan.